

REMARKS

1. Claims 1-4, 6-19 and 21-24 were rejected under the provisions of 35 U.S.C. §102(b) as being anticipated by either Hlavaty et al. (the "345 patent) or Ashtiani-Zarandi et al (the '293 patent). This rejection is respectfully traversed.

It is submitted that the rejection is ill founded and the claims are not anticipated by the applied references. The applied references do not disclose any selective deposition modeling methods as claimed and disclosed in the pending application. The applied references are using and only teach the use of stereolithography to make prototype structures. The closest the references come to the originally filed independent claims and what the application discloses is that they are using a form of rapid prototyping or, as termed in the instant application, one of the known, but distinctly different, solid freeform fabrication techniques. As explained on page 3 of the specification at lines 14-17, selective deposition modeling (or SDM) uses a phase change material that is jetted or dropped in discrete droplets, or extruded through a nozzle, to solidify on contact with a build platform or a previous layer of solidified material in order to build a three-dimensional object. The specification did use the term "thermal stereolithography" as a one of the synonyms for SDM, but that term was coined by the Assignee of the present invention and is used to describe ink jet printing or nozzle dispensing of a selective amount of at least one normally solid material, but which is flowable when heated as described in U.S. Patent Nos.5,141,680; 5,501,824; 5,676,904; 5,672,312; and 5,569,349.

Stereolithography, in marked contrast, involves the use of a liquid resin into which an energy source, such as an UV laser, is focused to expose and cure/solidify the resin. The resin material is not solid at room temperature and is not heated to make it flowable, nor is it selectively dispensed. The applied references are using the technology as invented by the Assignee of the present invention which involves the use of a vat of liquid resin into which an elevator is successsively lowered as a laser beam traverses the bath to create layer by layer the desired prototype. There is no selective dispensing of a material that changes from a solid to a liquid for dispensing upon heating, nor is there any dispensing of resin over anything less than a surface of the vat that is much larger than just the cross-section of the part being built, as is done in selective deposition modeling. This is described in detail in both of the applied references in column 1, at lines 11-21 in the '345 patent and lines 12-22 in the '293 patent.

Specifically independent claims 1 and 13 recite a method of forming a three-dimensional object by selective deposition modeling. To further distinguish the SDM method from stereolithography, claims 1 and 13 have been amended to recite that the build material is selectively dispensed from at least one orifice based on support found in the specification on page 3, at lines 14-17; page 14, at lines 10-14 referencing the incorporation by reference of U.S. Patent No. 6,305,769; and page 20, at lines 20-26. It is submitted that no new matter has been added to the application by this additional language.

It is submitted that the above comments and the amendments made to independent claims 1 and 13 have placed those claims, and their dependent claims in condition for allowance. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

2. Claims 5 and 20 were objected to as being dependent upon a rejected base claim. Applicant has added new claim 46 that incorporated the limitations of objected to, but indicated as allowable claim 20 and its dependent claims into the text of what is based on original claim 1. Support for this language is found at numerous places in the specification including page 11. Dependent claim 47 has been added to recite that the build material is curable upon exposure to actinic radiation based on limitations in original claim 13. No new matter has been added to the application as a result of the additional claims. Accordingly, reconsideration and withdrawal of the objection and early allowance are respectfully requested.

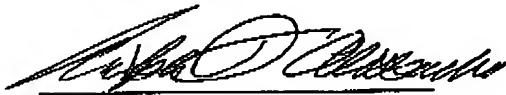
3. New dependent claims 44 and 45 have been added to claim dispensing with a print head or a nozzle.

4. In summary, claims 1-24 remain in the application. Independent claims 1 and 13 have been amended and new claims 44-47 have been added to the application.

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USA.299

Pursuant to currently recommended Patent Office practice, the Examiner is expressly authorized to call the Applicant's attorney collect at Valencia, California, if in his judgment disposition of this application could be expedited or if he considers the application not ready for examination or final disposition by other than allowance.

Respectfully submitted,
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